



**[6450-01-P]**

## **DEPARTMENT OF ENERGY**

### **U.S. Energy Information Administration**

#### **Agency Information Collection Extension**

**AGENCY:** U.S. Energy Information Administration (EIA), Department of Energy (DOE).

**ACTION:** Notice and request for comments.

**SUMMARY:** EIA invites public comment on the proposed collection of information, Form EIA-871 *Commercial Buildings Energy Consumption Survey (CBECS)* as required under the Paperwork Reduction Act of 1995. EIA requests a three-year extension, with changes, of CBECS, OMB Control Number 1905-0145. This form collects data on energy consumption and expenditures and energy-related building characteristics for the commercial sector of the national economy.

**DATES:** EIA must receive all comments on this proposed information collection no later than **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. If you anticipate any difficulties in submitting your comments by the deadline, contact the person listed in the **ADDRESSES** section of this notice as soon as possible.

**ADDRESSES:** Send your comments to *Joelle Michaels*, CBECS Survey Manager, EI-22, U.S. Department of Energy, 1000 Independence Avenue SW, Washington, DC, 20585. Submission by e-mail to [joelle.michaels@eia.gov](mailto:joelle.michaels@eia.gov) is recommended.

**FOR FURTHER INFORMATION CONTACT:** If you need additional information or copies of the information collection instrument, send your request to *Joelle Michaels* by phone at (202) 586-8952, or by email to [Joelle.Michaels@eia.gov](mailto:Joelle.Michaels@eia.gov). Access to the

proposed form, instructions, and internet data collection screens can be found at:

<https://www.eia.gov/survey/#eia-871>.

**SUPPLEMENTARY INFORMATION:** This information collection request contains:

(1) *OMB No.* 1905-0145;

(2) *Information Collection Request Title:* Commercial Buildings Energy Consumption Survey;

(3) *Type of Request:* Renewal with changes;

(4) *Purpose:* CBECS is a national multi-stage probability sample survey of commercial buildings and the energy suppliers to these buildings. The sampling unit is the building. The overall objective of CBECS is to collect basic statistical information on energy consumption and expenditures in commercial buildings and the energy-related characteristics of those buildings. Aggregate energy consumption data relating to building characteristics are made available to the public in electronic tables and reports at [www.eia.gov/consumption/commercial](http://www.eia.gov/consumption/commercial).

CBECS has been conducted periodically since 1979; the most recent data collection cycles were in 2007 and 2012. The 2018 data collection cycle will be the 11th iteration for this survey.

The CBECS is integral to EIA's mandate to collect and publish energy end-use consumption data. The collected data constitute the only national-level data available on energy consumption in commercial buildings that are both comprehensive in nature and statistically rigorous. As such, CBECS data constitute the only data series that allows policy makers and program implementers in both the public and private sectors to keep

track of national trends in energy consumption for the commercial sector and commercial buildings. CBECS is comprised of the following schedules:

- EIA-871A *Building Questionnaire*
- EIA-871C *Natural Gas Usage*
- EIA-871D *District Heating Usage*
- EIA-871E *Electricity Usage*
- EIA-871F *Fuel Oil Usage*
- EIA-871I *Mall Building Questionnaire*
- EIA-871J *Mall Establishment Questionnaire*

(4a) *Proposed Changes to Information Collection:* The current design, procedures, and schedules for CBECS reflect a number of changes from the 2012 CBECS collection cycle. The proposed changes are listed next. References to added questions apply to the 2018 CBECS questionnaire numbers and deleted question numbers refer to the 2012 CBECS.

- The following associated schedules are deleted and will not be used: EIA-871B *Authorization Form*, EIA-871G *Worksheet 1: Characteristics, Energy Sources, and Equipment*, and EIA-871H *Worksheet 2: Energy Amounts Used and Dollars Spent*.
- *EIA-871B Authorization Form* is deleted because EIA can collect this information from energy suppliers using its mandatory collection authority. Respondents no longer need to complete this form and sign it because their energy supplier name will be collected during on the questionnaire form and they will be informed that EIA will contact the supplier for further information.

- *EIA-871G Worksheet 1* is deleted. This worksheet was provided as a mechanism for respondents to collect information about characteristics of the building prior to the interview. EIA has determined that this worksheet was not as useful as anticipated and it is not needed.
- *EIA-871H Worksheet 2* is deleted. This worksheet was used by respondents to report monthly consumption and expenditures for electricity and natural gas. Respondents could use the worksheet to collect annual data for fuel oil/diesel/kerosene, district steam, district hot water, and total water as preparation for the in-person interview. The worksheet is no longer necessary because monthly energy data will be collected from energy suppliers instead.
- Online data collection is added as a mode of collection. Respondents will have the option to complete CBECS using a self-administered online questionnaire. Interviewer debriefing following the 2012 CBECS indicated that some respondents preferred a web mode for responding to CBECS. EIA estimates that 40% of respondents will choose web as their response mode.
- Delete questions A7-A11 from EIA-871A: These questions asked respondents if they included parking and common areas in the reported square footage. They were meant to improve the accuracy of the data reported for square footage but respondents had difficulty providing this information and EIA determined that other square footage editing procedures added more value than these questions.
- Delete questions A20 and A21 from EIA-871A: Whether the glass is equal on all sides of the building and if not, whether the sides receiving direct sunlight have more or less glass than the other sides, have been deleted for concerns about data quality.

- Revise question A11 in EIA-871A, question A11 in EIA-871I: The question about whether there is a “cool roof” was expanded to ask which, if any, properties the roof has that allow it to reflect more sunlight or absorb less heat than a standard roof, such as a white or highly reflective coating or paint or a vegetative roof. This change was made following discussions with stakeholders.
- Delete question B12 from EIA-871A: Type of retail store question collected detail about whether the retail store was apparel specialty, drug store, home center, etc. There were not enough responses across the categories to publish the data, so it did not add any value.
- Delete questions B31-B33 from EIA-871A: If any office space, presence and location of open plan office space have been deleted for concerns about data quality.
- Add questions B42 and B43 to EIA-871A, questions B2 and B3 to EIA-871I: For buildings that are on a multi-building campus/complex, these two questions were added to collect the number of buildings on the campus/complex and the name of the campus/complex. They will help EIA with data editing.
- Add question C9 to EIA-871A: For buildings that report more than one business or organization in the building, this question was added to collect the number tenants that lease space in the building. This is part of the effort to scope the ability to collect data for a future tenant data collection.
- Delete questions C22 and C23 from EIA-871A: Annual number of events for public assembly buildings, annual meals served for restaurants. These questions had high item nonresponse rates as many of the respondents did not have that information available.

- Delete questions C24, C25, C32, and C33 from EIA-871A and C6, C7, C14, and C15 from EIA-871J: Seasonal use and “high season” questions. These questions were meant to make answering questions about operation hours easier for respondents at buildings that were used more in certain months (e.g., summertime), but data review indicated that the questions added confusion and were not helpful.
- Delete question C36 from EIA-871A: The question about whether fire station personnel are career or volunteer has been deleted. This was added to the 2012 CBECS in response to a stakeholder request, but too few fire stations and police stations appeared at random in the sample, so the two building activities were combined in the published data tables and the public microdata.
- Add question D17 to EIA-871A, question D17 to EIA-871I, question D17 to EIA-871J: If solar as an energy source is reported to be used in the building, this follow-up question is asked to determine whether the building has solar panels for generating electricity and/or solar thermal energy. As a growing number of commercial buildings are using solar, it has become more important to collect information on the specific technology used.
- Revise EIA-871A questions D25-D90, EIA-871I questions D23-D79, EIA-871J questions D21-D74: The questions on space heating source(s) and the equipment section of the questionnaire were revised. Instead of asking what energy source(s) were used for heating and then asking what types of equipment, EIA will link the equipment type to each reported energy source that is used for heating. Equipment type response choices will be specific to the selected energy source(s), which should make it easier for

respondents to report equipment type and fuel use in their buildings. This information is useful for data users to know which source powers each equipment.

- Revise EIA-871A questions D91-D117, EIA-871I questions D80-D104, EIA-871J questions D75-D95: The cooling source(s) and equipment section of the questionnaire has also been revised. Similar to space heating, EIA will link the equipment type to each energy source reported to be used for cooling.
- Delete question D25 from EIA-871A, D29 from question EIA-871I, and question D27 from EIA-871J: The type of furnace (packaged central, split system, duct furnace, individual) has been deleted for concerns about data quality.
- Delete questions D36, D37, and D52 from EIA-871A; D40, D41, and D56 from EIA-871I; and D38, D39, and D50 from EIA-871J: The type of packaged heating/cooling (unitary, custom built-up) and packaged heating components (furnace, heat pump, heating coil, powered induction unit, duct reheat) questions have been deleted for concerns about data quality.
- Delete questions D38 and D57 from EIA-871A; D42 and D61 from EIA-871I; and D40 and D55 from EIA-871J: The heat pump heating/cooling system type (packaged, split, individual, ductless mini-split, variable refrigerant flow) questions have been deleted for concerns about data quality.
- Delete question D41 from EIA-871A; D45 from EIA-871I; and D43 from EIA-871J: The type of individual heater (infrared radiant, baseboard, portable heater, wall heater, individual furnace, unit heater, heating element in PTAC (Packaged Thermal Air Conditioner) questions has been deleted for concerns about data quality.

- Delete question D54 from EIA-871A; D58 from EIA-871I; and D52 from EIA-871J: Whether the absorption chiller has the capability to act as a heater chiller has been deleted for concerns about data quality.
- Delete questions D43, D44, D61, D62, and D62a from EIA-871A; D47, D48, D65, D66, and D66a from EIA-871I; and D45, D46, D59, D60, and D60a from EIA-871J: Heating/cooling ventilation equipment (CAV (Constant Air Volume), VAV (Variable Air Volume), underfloor distribution, dedicated outside air system, demand-controlled ventilation), however some of these response options have been incorporated into the new question D125 about airflow control, described below.
- Add follow-up question D119 to EIA-871A, question D107 to EIA-871I, question D98 to EIA-871J: For buildings that report using building automation systems (also referred to as BAS), this question will collect information on which systems (heating, cooling, and/or lighting) the BAS controls.
- Add question D120 to EIA-871A, question D108 to EIA-871I, D99 to EIA-871J: For buildings without BAS systems, a new question asks whether “smart” or internet-connected thermostats are used. These types of thermostats are new since the last CBECS was conducted, and may be more common in small commercial buildings.
- Add question D125 to EIA-871A, question D113 to EIA-871I, question D104 to EIA-871J: This question will collect information about airflow control in the building: whether the building has a variable air volume (VAV) system, a dedicated outdoor air system (DOAS), or demand controlled ventilation (DCV). This modified version of the deleted ventilation question came from comments and discussion with stakeholders.



- Add question D141 to EIA-871A, question D128 to EIA-871I, question D119 to EIA-871J: A question about energy sources by generation technology (if not solar panels or wind turbines) will link the energy source used with these generation technologies reported to be used: reciprocating engine generators, fuel cells, large turbines, or microturbines.
- Delete questions D94, D95, and D96 from EIA-871A and D85, D86, and D87 from EIA-871J: How electricity and natural gas are purchased (local utility, independent power producer, non-local utility, broker).
- Add question D144 to EIA-871A, question D131 to EIA-871I: Ask all buildings that use electricity whether there are there any electric vehicle charging stations associated with the building. Stakeholders have expressed an interest in this information and this end use is expected to grow.
- Add question D145 to EIA-871A, question D122 to EIA-871J: For dry cleaner/laundromats that use natural gas, ask whether there are clothes dryers that run on natural gas. This will improve end use estimation in these types of buildings.
- Delete question D103 from EIA-871A, question D91 from EIA-871I, question D88 from EIA-871J: The question asking whether the building has advanced metering infrastructure (AMI) was deleted for data quality concerns.
- Delete questions E11, E12, and E13 from EIA-871A: The question collecting whether or not there was space use in fire stations for non-fire station activities or for living quarters has been deleted.
- Delete questions E49 and E50 from EIA-871A and E32 and E33 from EIA-871J: Questions about flat screen monitors (both their presence and prevalence) have

been removed since they are now the leading type of monitor used with desktop computers.

- Delete question E60 from EIA-871A: The square footage of trading floors will no longer be collected because it was not publicly reportable due to confidentiality concerns.
- Add question E73 to EIA-871A: This question is a follow-up to one that asks whether there is parking area associated with the building that is lighted through fixtures powered through the building's electrical service. This new question asks whether that parking area is part of building, such as an indoor parking level, or separate, such as an outdoor parking lot or garage. This will help data users to understand whether indoor parking is included as part of the building figures.
- Revise EIA-871A questions E41-E61, EIA-871J questions E27-E47: The series of questions on computing and office equipment have been revised following review of the 2012 data and discussions with stakeholders. A *select all that apply* question about computing equipment replaces individual questions about whether there are computers, laptops, and servers. An option for tablets has been added to the list of computing types. If selected, a new question will collect the number of tablets that are charged in the building. Respondents will be given the option to provide number of server *racks* if that figure is more readily available to them than the number of servers. When a respondent indicates that a data center is present in the building, a new question will ask about characteristics of the data center (such as a raised floor, separate cooling system and uninterruptible power supply) in order to help identify false positives and improve data quality. On the office equipment question, instead of asking about separate printers,

copiers, and FAX machines, EIA will differentiate between large stand-alone office devices and smaller desktop devices, and collect the numbers of each type.

- Add questions F2, F11, G3, and G10 to EIA-871A, questions F2, F12, G4, and G11 to EIA-871J: These questions ask respondents whether they prefer to report electricity and/or natural gas consumption data on an annual or a monthly basis, and if they choose monthly then they are provided a grid to provide the monthly data. EIA expects most respondents will choose to report the single annual figure, but is allowing both for flexibility.
- Add questions F4, F6, and F7 to EIA-871A, questions F5, F7, and F8 to EIA-871J: For buildings that reported having on-site electricity generation, these questions are used to determine whether they can report the purchased and the generated electricity separately, and if so, to collect the purchased amount of electricity separately. Stakeholders have expressed interest in this information.
- Add questions K2-K11 to EIA-871A: These questions will be used to scope the ability to collect data for a future tenant data collection, as set forth by the *Energy Efficiency Improvement Act of 2015*, which requires EIA to collect data to support a future Environmental Protection Agency program to promote energy efficiency in separate tenant spaces, similar to the current ENERGY STAR program. These questions ask about electricity and natural gas billing arrangements and metering, which electricity uses are metered, and who has access to the metered electricity and natural data.
- Delete questions K1-K20 from EIA-871A and K1-K14 from EIA-871J: Water usage and other water-related questions that were included in the 2007 and 2012 CBECS will be removed. EIA found the response rates for these data items were very low and

much of the data received was of low quality. Additionally, EIA has no mandate to pursue usage data from water suppliers as well as insufficient funding to address data deficiencies.

- Delete questions L14, L15, and L16 from EIA-871A and L2, L3, and L4 from EIA-871I: Questions about whether the building has any green certification, such as Energy Star or LEED, have been deleted. A thorough analysis of the performance of this question was conducted by comparing 2012 CBECS responses to databases of Energy Star and LEED certified buildings. This analysis indicated significant data quality issues with the CBECS reports for this question. Furthermore, due to confidentiality concerns and low sample sizes, the green building certification data from the 2012 CBECS could not be published.
- Deletion of many questionnaire edits (in EIA-871A, EIA-871I, and EIA-871J) will reduce the number of times an interview is interrupted to question or confirm a data item.
- The *Additional Questions* sections of EIA-871C-F are deleted. These sections contained from two to seven questions depending on the form:
  - Questions 1 through 5 on the second page of EIA-871C *Natural Gas Usage Form* questions are deleted: (1) what charges were excluded from the total costs, (2) whether the responses included all active accounts during the reporting period, (3) whether the reported information included deliveries or sales to any buildings or units other than the building, (4) the account classification (commercial, residential, industrial), and (5) whether the building was eligible to participate in a “customer choice” program.

- Questions 1 through 6 on the second page of EIA-871D *District Energy Usage Form* questions are deleted: (1) whether the building is billed for the district steam or hot water piped into it, (2) whether the building itself is a heating plant, (3) whether the reported information included deliveries or sales to any buildings or units other than the building, (4) if yes to previous, the percent of reported consumption consumed by the building, (5) the square footage of the building, and (6) the square footage of all the buildings on the district loop.
- Questions 1 through 7 on the second and third pages of EIA-871E *Electricity Usage Form* questions are deleted: (1) what charges were excluded from the total costs, (2) whether the responses included all active accounts during the reporting period, (3) whether the reported information included deliveries or sales to any buildings or units other than the building, (4) the account classification (commercial, residential, industrial), (5) whether the building has an advanced metering infrastructure (AMI or smart metering), (6) whether the building was eligible to participate in a “customer choice” program, and (7) whether the building participated in any dynamic pricing programs.
- Questions 1 and 2 on the second page of EIA-871F *Heating Oil Form* questions are being deleted: (1) whether the responses included all accounts during the reporting period and (2) whether the reported information included deliveries or sales to any buildings or units other than the building.
- EIA will not ask the building respondents to provide monthly energy data, as these records are more easily accessed through energy suppliers. The Energy Suppliers Survey (Forms EIA-871C-F, as applicable to each building depending on which energy source or sources are used in the building) will be used for almost all buildings, instead of

the previous methodology where only those buildings where the building respondent was not able to provide valid data were included in the supplier data collection. The building and establishment respondents reporting on Forms EIA-871A and EIA-871J will still be asked to provide annual energy data because EIA has found that there are situations where those respondents are better suited to provide data that corresponds correctly to the sampled CBECS structure. This reporting structure should provide the highest quality data while allocating the burden appropriately across survey respondents.

*(5) Annual Estimated Number of Respondents: **2,380;***

*(6) Annual Estimated Number of Total Responses: **2,380;***

*(7) Annual Estimated Number of Burden Hours: **2,611;***

*(8) Annual Estimated Reporting and Recordkeeping Cost Burden:* The cost of the burden hours is estimated to be \$197,627 (2,611 burden hours times \$75.69 per hour). EIA estimates that respondents will have no additional costs associated with the surveys other than burden hours.

Comments are invited on whether or not: (a) The proposed collection of information is necessary for the proper performance of agency functions, including whether the information will have a practical utility; (b) EIA's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used, is accurate; (c) EIA can improve the quality, utility, and clarity of the information it will collect; and (d) EIA can minimize the burden of the collection of information on respondents, such as automated collection techniques or other forms of information technology.

**Statutory Authority:** Section 13(b) of the Federal Energy Administration Act of 1974,  
Pub. L. 93-275, codified as 15 U.S.C. 772(b) and the DOE Organization Act of 1977,  
Pub. L. 95-91, codified at 42 U.S.C. 7101 et seq.

Issued in Washington, D.C., on May 9<sup>th</sup>, 2018

---

Nanda Srinivasan  
Director,  
Office of Survey Development and Statistical Integration  
U. S. Energy Information Administration.

[FR Doc. 2018-10328 Filed: 5/14/2018 8:45 am; Publication Date: 5/15/2018]